Dr. Marwa Shalaby notes and comments

Carbapenem-resistant *Acinetobacter baumannii* (CRAB)
The use of high-dose ampicillin-sulbactam (total daily dose of 6-9 grams of the sulbactam component) in combination with at least one other agent is suggested for the treatment of CRAB infections. https://www.idsociety.org/practice-guideline/amr-guidance/
AmpC producer **For these isolates if S to cephalosporin, you should put this comment**
Serratia, Enterobacter cloacae complex, *Klebsiella aerogenes*, *Citrobacter freundii,* and *morganella morganii* are the most common Enterobacterales at moderate to high risk for clinically significant AmpC production. (This organism has moderate to high risk for clinically significant AmpC production, isolates that are initially susceptible to 3rd gen cephalosporin may become resistant within 3 to 4 days after initiation of therapy. Therefore, if patient is clinically not improving repeat culture is necessary)
SPICE group in case CRO and TZP sensitive **Change CRO & TZP to resistance and add this comment:**
Resistance to extended-spectrum penicillins, beta-lactam/beta-lactamase inhibitor combinations (e.g. Piperacillin-tazobactam), and cephalosporins may develop during therapy. These agents should be avoided and will be reported as resistant regardless of their in vitro susceptibility results. If you have questions, please contact the medical microbiologist. Note: Always release **FEP** Note: Always release **Carbapenem** antibiotics
For Pseudomonas S to lower drugs and R to higher drugs **Note: in this case will report the Pseudo (MDR and CR) Strain**
P. aeruginosa isolate not susceptible to any carbapenem agent but susceptible to traditional B-lactams, the administration of a traditional agent as high-dose extended-infusion therapy is suggested, and repeat AST is encouraged. https://www.idsociety.org/practice-guideline/amr-guidance

If Carbapenem **Resistant** even lower drug **Sensitive** add:
Ceftazidime-avibactam and **Ceftolozane-tazobactam**

If ear or eye must add **Tobramycin**

ESBL

Hide **AMC** and **FEP** when they are **sensitive.**

Make **CRO** Resistant if sensitive and release it.

If **Gentamicin** is sensitive, no need to release the **Amikacin**

When the **Piperacillin/tazobactam** sensitive add this comment:

(This isolate is ESBL producer. Susceptibility to beta lactamase inhibitors may vary according to the isolate and the amount of the enzyme. Therefore, predicting treatment outcomes is difficult particularly for severe infections).

Any SDD (Either ESBL or NOT)

The interpretive criterion for SDD is based on the dosage regimens that result in higher antimicrobial exposure, either higher dosed or more frequent doses, or both)

Xpert® Carba-R PCR negative

The strain's gene responsible for Carbapenem resistance couldn't be detected using Xpert® Carba-R PCR technique. This might be attributed to a rare gene which is not included in the Xpert® Carba-R PCR panel performed or due to a Carbapenem resistant (CRE) but not Carbapenemase producer strain.

Carbapenem resistant with Carba-Rapid Ag negative

The strain's gene responsible for Carbapenem resistance couldn't be detected using Carba-Rapid Ag Test technique. This might be attributed to a rare gene which is not included in the Carba-Rapid Ag Test technique panel performed or due to a Carbapenem resistant (CRE) but not Carbapenemase producer strain.

***Enterococcus* comment**
Enterococci susceptible to penicillin are predictably susceptible to Ampicillin, Amoxicillin. Ampicillin-sulbactam. Amoxicillin-clavulanate, and Piperacillin-tazobactam for non-beta-lactamase-producing *Enterococci.*
For *S. pyogenes* (Group A)
Penicillin and Ampicillin are drugs of choice for treating Beta-haemolytic Streptococcal infections. Susceptibility testing does not need to be performed routinely, because non susceptible isolates are extremely rare in any Beta-haemolytic streptococci and have not been reported for *Streptococcus pyogenes*.
Contamination comment (Blood Culture)
Possible skin contaminant, clinical correlation required.
No significant growth (Urine Mid-Stream)
Repeating culture with morning Mid-Stream Specimen is recommended if clinically indicated.
Yeast cases (Reading and Sensi.)
1. Yeast from sterile site **(VITEK for ID + AST)** Note: **Don't** release Amphotericin B + Flucytosine
2. Yeast from Urine or non-sterile sample **"From non-critical unit with significant growth"** **Do GTT or CHROM and Release** Note: **(Release either it was *C. albicans* or other than *C. albicans*)**
3. Yeast from Urine or non-sterile sample **"From critical unit"** **Do GTT or CHROM** - **If *C. albicans*, Release** - **If other than *C. albicans*, Run in VITEK for ID only**

4. Yeast from respiratory samples

For Significant growth of Yeast **NOT** *Cryptococcus neoformans/gattii;* report as "*ISOLATE* name POSSIBLY significant.

Add this comment:

Yeast other than *Cryptococcus neoformans*/*gattii* are not commonly associated with Pneumoniae. Histopathological and Clinical correlation is required.

For *Achromobacter xylosoxidans spp.*

This organism is usually isolated from environmental sources but may be an opportunistic pathogen, clinical correlation required.

For *Ralstonia insidiosa*

This organism is usually isolated from environmental sources and may represent sample contamination during collection, clinical correlation required.

For *Stenotrophomonas maltophilia*

Trimethoprim-sulfamethoxazole either alone or a part of combination therapy is the treatment of choice for *Stenotrophomonas maltophilia* infections. Levofloxacin should not be used alone for therapy.

Imipenem intrinsically resistant (*Proteus*, *Morganella*, *Providencia*)

Imipenem has low intrinsic activity against this organism due to altered penicillin binding proteins. This does not affect other carbapenems.

Cefoxitin disc confirmation for MRSA

Don't do if

Vitek oxacillin **MIC > 2 µg/mL** and **cefoxitin screening (+)**

Do if

Vitek oxacillin **MIC ≤ 2 µg/mL** and **Cefoxitin screening (+)**
Vitek oxacillin **MIC > 2 µg/mL** and **Cefoxitin screening (-)**

Note: In MRSA Screening order **no need** to release the sensitivity. Only release as:
Positive: Methicillin (Oxacillin) Resistant *Staphylococcus aureus* isolated
Negative: No Methicillin (Oxacillin) resistant *Staphylococcus aureus* isolated

Nasopharyngeal specimen for Respiratory culture:
Nasopharyngeal Swab specimens are not reliable for determining the causative agent of sinusitis, otitis media, and lower respiratory tract infection.
***Corynebacterium spp*. (From urine) immunocompromised patients**
Sensi: **Penicillin**, **Ciprofloxacin**, and **Vancomycin** (E test are preferred) + Add these comments: • Antimicrobial susceptibility testing for this organism performed by unstandardized methodology. Results are probable but not definite. • This organism is part of normal skin flora, but it has been associated with some infections including device/catheter related infections. Clinical correlation required.
***Haemophilus spp.* Sensi**
AMP, CRO, CXM, SXT, and LEV
For PDR
Use Imipenem-relebactam **only** in PDR
Other comments
These organisms are part of normal flora of the respiratory and gastrointestinal tracts. They have been associated with bacteremia, endocarditis, peritonitis, meningitis, brain abscess, bone and joint infections, sinusitis, pneumonia/empyema, prosthetic/medical device related infections, wound and genitourinary infections, often in immunocompromised individuals.
These organisms are found in a variety of environmental sources and may rarely cause infections (bacteremia, meningitis, endocarditis, peritonitis (including CAPD peritonitis), osteomyelitis, tenosynovitis), usually in immunocompromised patients.

Susceptibility testing for this organism is not standardized. Results are probable but not definite. Close clinical follow up recommended.
This organism is commonly isolated from environmental sources, clinical correlation is required.